Abstract:

Temperature management is the primary postharvest factor that influences the quality of product in the market. Cost effective temperature monitoring protocols, which accurately reflect coolchain performance from harvest to market, need to be incorporated into information systems for quality management. These techniques may provide fruit quality assurance procedures and the opportunity to develop product segregation tools in the market. This paper demonstrates clear real-time monitoring and data retrieval of postharvest conditions from orchard to packing. Rudimentary thermal transfer models in combination with product tracking techniques have been used to predict product temperatures to enable quality prediction. At packing product mixing and pre-pack heat exposure were assessed to identify pallets containing product with potential for best storage and highest quality in the market. The research suggests that there is considerable variability in precedent conditions for fruit on a single pallet which means that it is very important that practical supply chain and logistic considerations are taken into account when modelling such systems.